Gut microbiota and allergies: can we prevent them by using prebiotic and/or probiotic?

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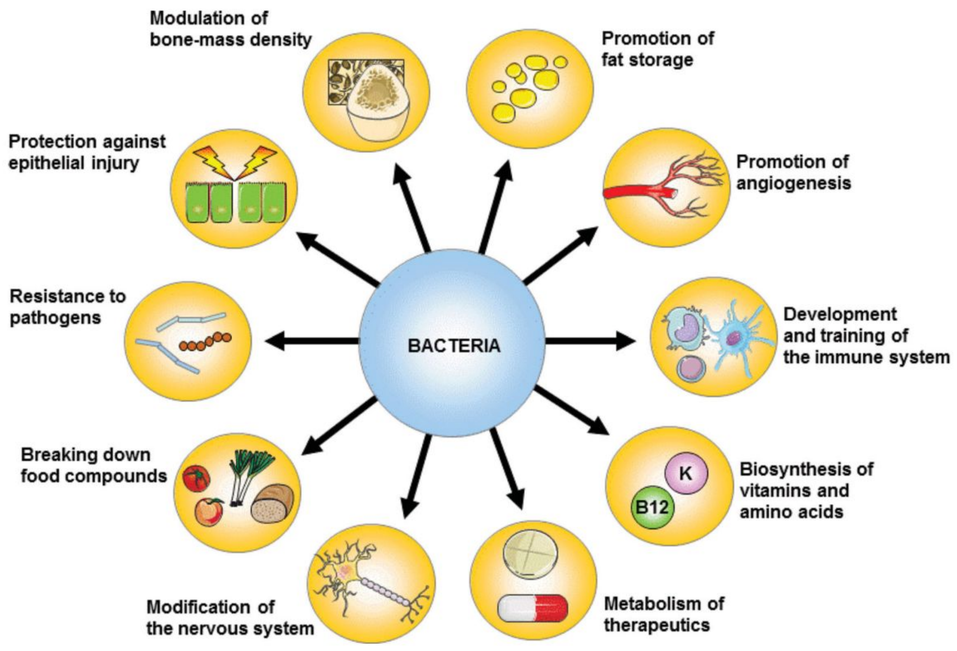
June 2017

Objectives

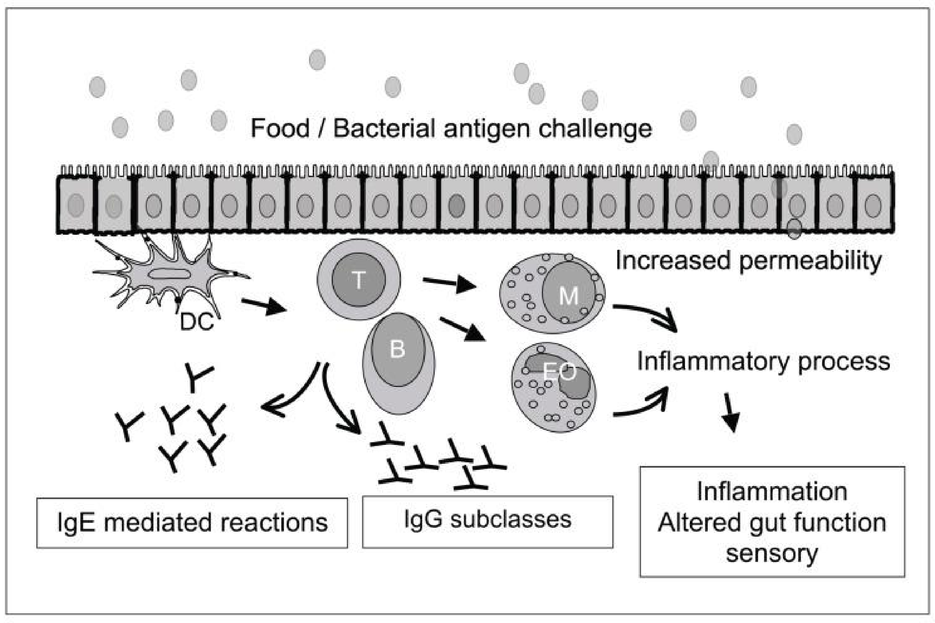
- To examine the importance of gut microbiota in human health.
- To understand how to modify gut microbiota by using prebiotics and probiotics and their benefits.
- To evaluate whether prebiotics and probiotic are useful to prevent food allergy.

Gut microbiota functions



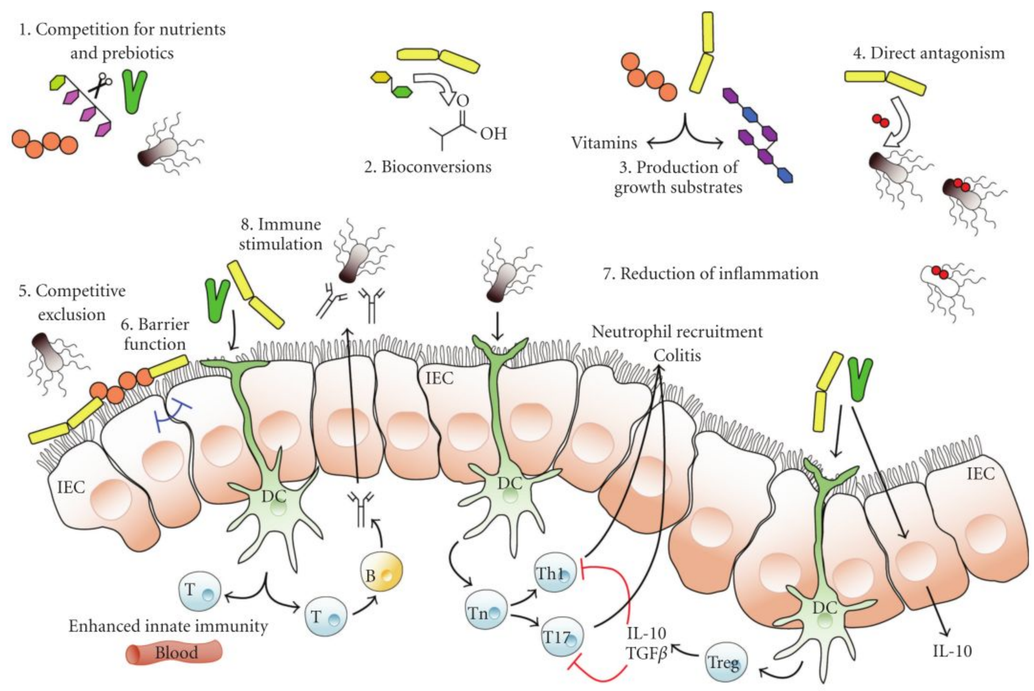
Main functions of bacteria in the gut (Laukens et al. 2016).

Food allergy mechanism



Mechanism of food hypersensitivity (Choung i Talley 2012).

Probiotic impact on the microbiota



Potential mechanisms of probiotic bacteria on the microbiota (O'Toole & Cooney 2008).

Conclusions

- Human microbiota is established after birth and it is constituted by more than 10^{13} bacterial cells. Microbiota modulates many of the body functions and shapes the immune system.
- Mother microbiota is very important to determine composition of gut microbiota.
- The establishment of gut microbiota in the childhood is important to prevent allergies or diseases.
- Healthy benefits have been attributed to both prebiotics and probiotics.
- Its effectivity depends on the gut microbiota of the host, the dose, the frequency of consumption, the diet and the healthy state of the consumer.
- Any health claim in a functional food must be supported by scientific proof.
- There is still not enough evidence to prove the effect of prebiotics and probiotics in the prevention of food allergy.